vascular disease. Using high resolution ultrasound, brachial artery reactivity in response to hyperaemia (endothelium-dependent flow mediated dilatation) (FMD) was compared to that of GTN (endothelium-independent dilatation) after 6 months of treatment.

	Baseline mean (sd)	3 months mean (sd)	6 months mean (sd)	p
Vessel Size (mm)				
Placebo	3.55 (0.61)	3.52 (0.62)	3.48 (0.58)	
Enalapril	3.59 (0.57)	3.56 (0.57)	3.56 (0.48)	
% Change in FMD				
Placebo	2.31 (2.68)	2.94 (3.43)	3.02 (2.64)	
Enalapril	1.60 (2.38)	2.55 (2.68)	2.80 (2.94)	NS
% Change in GTN-MD				
Placebo	18.3 (7.56)	18.7 (9.37)	19.6 (7.49)	
Enalapril	17.5 (8.04)	16.9 (8.06)	18.4 (8.25)	NS

Young IDDM subjects have impaired large vessel endothelial function even in the absence of microvascular disease, hypercholesterolemia or hypertension. This was not significantly improved despite treatment with the ACEi enalapril for 6 months.

715 Unstable Angina: Interventional Therapy

Monday, March 17, 1997, 2:00 p.m.–3:30 p.m.
Anaheim Convention Center, Room B2

2:00

715-1 Early Hazard of "Rescue" Angioplasty After Thrombolysis is Reduced by Improved Long-Term Outcome

G.W. Barsness, E.M. Ohman, T.D. Thompson, M.H. Sketch, Jr., D.R. Holmes, Jr., R.M. Califf. *Duke University Medical Center, Durham, NC, USA*

To evaluate outcome after early "rescue" angioplasty (PTCA), we studied 1336 patients in GUSTO-I who had PTCA within 24 hrs of initiating thrombolytic therapy (TT) for acute MI and 37,964 who had PTCA later or not at all. The early PTCA cohort had a lower mean SBP (125 vs 129), with more Killip class III or IV heart failure (3 vs 2%), anterior MI (45 vs 39%), and prior PTCA (6 vs 4%), but fewer prior MI (13 vs 17%). The early PTCA patients had pre-PTCA TIMI flow of 0–1 in 72%, 2 in 16%, and 3 in 12%, with 89.5% overall PTCA success. Early PTCA patients had less recurrent ischemia (8 vs 12%, $p < 0.001$) and reinfarction (2 vs 3%, $p = 0.04$) but more moderate/severe bleeding (29 vs 12%, $p < 0.001$). To minimize potential bias associated with early deaths, 52 patients who died within 24 hours of TT were excluded. Mortality data are shown below.

Mortality	TT Alone (%)	TT + Early PTCA (%)	Hazard Ratio (95% CI)	P
1 day to 30 days	4.1	6.4	1.5 (1.2, 1.9)	0.002
30 days to 1 year	3.1	2.1	0.7 (0.5, 1.0)	0.04

Conclusion: Despite an early hazard associated with "rescue" PTCA after thrombolysis for acute MI, early intervention is associated with a high success rate, decreased reinfarction and recurrent ischemia, and improved long-term survival.

2:15

715-2 TIMI 3 Flow at 3 Weeks Following Myocardial Infarction Determines Long-term Mortality in Patients Randomized to Streptokinase or Placebo

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The short-term outcome after myocardial infarction is related to the achievement of complete reperfusion or TIMI 3 flow. In this study we examined the late outcome of 217 patients randomized to receive either streptokinase (112) or placebo (105) within 4 hours of symptom-onset. Surviving patients underwent arteriography and ventriculography at 3 weeks, and late vital status was determined in 99% of patients. At 5 years following thrombolytic therapy, survival in the streptokinase group was 78% and placebo group was 69% ($p = 0.17$). However actuarial survival in patients with TIMI 3 flow at 5 years was 94% compared with TIMI 0–2 flow 78% ($p = 0.0025$). At 10 years actuarial survival was 72% in patients with TIMI 3 flow and 62% in patients with TIMI 0–2 flow ($p = 0.095$). Preserved left ventricular function was associated with a better long-term outcome. Patients with ejection fraction >50% had 10 year actuarial survival of 74% and patients with ejection fraction <50% had survival of 54% ($p < 0.01$). Similarly patients with smaller end systolic volumes had significantly improved actuarial survival ($p < 0.01$).

Conclusion: TIMI 3 flow and preserved left ventricular function at 3 weeks after acute myocardial infarction predicts increased late survival.

2:30

715-3 Does Intracoronary Doppler Assessment of Post-Stenotic Reperfusion Flow Enhance Cardiac Event Prediction as Compared to Other Post-Myocardial Infarction Risk Markers?

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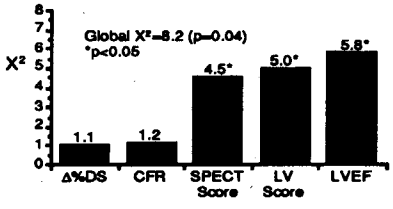
Reperfusion TIMI flow grade is correlated with LV functional recovery and cardiac events after myocardial infarction (MI). Intracoronary Doppler sensors accurately assess post-stenotic flows following the acute reperfusion. To determine the value of Doppler coronary flow data relative to other validated post-MI risk markers, 41 consecutive pts (age = 56 ± 14 yrs, 76% male) had Doppler (0.018" Flowire®) average peak velocity (APV) flow and coronary flow reserve (CFR) measured following successful primary angioplasty (PTCA). Post-PTCA improvements in infarct artery diameter stenosis (97 ± 8% to 24 ± 10%; $p < 0.01$) and TIMI flow grade (0.5 ± 0.9 to 2.8 ± 0.5; $p < 0.01$) were associated with increased post-stenotic APV (7 ± 6 to 19 ± 8 cm/sec; $p < 0.05$). Post-PTCA CFR (1.6 ± 0.6), contrast ventriculogram LV score (11 ± 3) and LVEF (48 ± 14%) were abnormal. At 3 week post-MI, ECG ST segment depression >1 mm occurred in 4 pts (10%) with reversible tomographic (SPECT) perfusion defects in 11 pts (27%). Pts were followed for 19 ± 12 mos for cardiac events (death = 0, MI = 1, unstable angina = 6, early CABG = 3 pts). COX multivariable regression of all angiographic, LV function, ischemic and flow data selected 3 significant variables (see Fig):



Conclusions: Following successful primary PTCA for acute MI: 1) coronary Doppler markers of acute reperfusion fail to predict future cardiac events, while 2) residual post-reperfusion LV dysfunction and subsequent stress-induced SPECT myocardial ischemia incrementally and accurately define post-MI prognosis.

2:45

715-4 Coronary Stenting In Women: Clinical Outcomes are Equivalent to Men

T.K. Nasser, E.T.A. Fry, T.F. Peters, J. VanTassel, C.M. Orr, Y. Khatib, K. Annan, N.A. Branyas, C.A. Pinkerton, J.B. Hermiller. *St. Vincent Hospital, Indiana Heart Institute, Indianapolis, IN, USA*

Women have a higher morbidity and mortality with balloon angioplasty than men. The purpose of this study was to determine the effect of gender on hospital and late clinical outcomes following coronary stenting with aspirin and ticlopidine. The study group consisted of 545 consecutive patients (median age 61; 149 women; 396 men) who underwent native coronary artery stenting. Clinical characteristics, indications for stenting, and lesion morphology were similar between the groups. All patients underwent follow-up at >6 months (median 9.2 months). VASC = significant vascular complications, ST = stent thrombosis, and Succ = overall success.

Hospital Events	Death	MI	CABG	ST	VASC	Succ
Men	0	1.2%	0.7%	0.5%	1.0%	97%
Women	0	1.3%	0.3%	0	1.9%	97%

Late F/U	Death	MI	PTCA	CABG	Event-free
Men	1.3%	0.2%	3.8%	4.6%	90%
Women	0	0	8.7%	3.3%	88%

In conclusion, there were no differences in hospital events and late clinical outcomes between women and men. Gender should not be an independent consideration when proceding with coronary stenting.